4 • DYNAMIC PLANNING APPPROACH

The advanced planning approach used in developing this Plan reflects this Region's significant progress in watershed planning. Continued scientific study and monitoring has increased our understanding of how this watershed functions under changing conditions. This body of knowledge enables this Plan to effectively blend planning, engineering, and ecological thinking:

- The "high-level" regional planning approach is counter-balanced with local, "engineering-in-the-trenches" knowledge and insight.

  The Dynamic Planning Approach explicitly recognizes the importance of both regional and local expertise and takes advantages of both in the planning process.

- The ecological balance vision is harmoniously balanced with evolving demands on the watershed.

  A considerable amount of effort has gone into defining types of integration, both at the regional and local levels, that can be incorporated into the planning effort to bring all our water resources into a healthy and self-sustaining state. To support implementation, a prioritization process is required to encourage the proper order for rolling out projects that fulfill regional and local objectives and state regulatory requirements.

These two coupled ideas: 1) regional and local expertise and 2) integration planning and prioritization, form the backbone of our Dynamic Planning Approach that will guide project selection, planning and design efforts (see Figure 4.1).

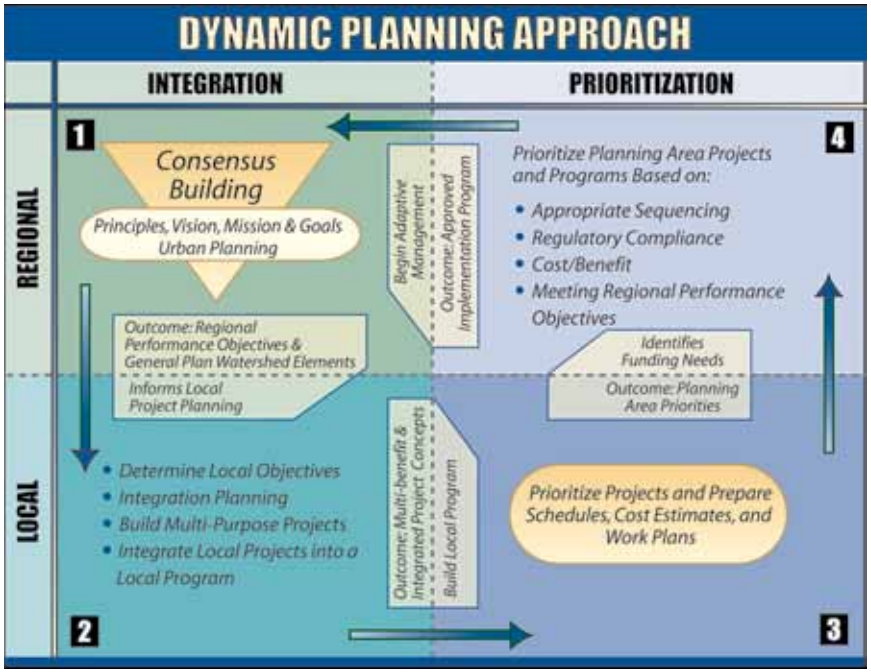

Figure 4.1 Dynamic Planning Approach

4.1 Step 1: Regional Integration

Integration at the regional scale takes four forms:

1. Integration based on stakeholders establishing common policies based on Principles, Vision, Mission and Goals;
2. Integration based on formulation of Regional Performance Objectives;
3. Integration based on urban planning policies that link land use with hydrologic considerations; and
4. Integration planning with neighboring IRWM regions.

First, this plan establishes common policy language by broadly defining Principles, Vision, Mission and Goals in terms of establishing healthy, balanced hydrologic conditions within the watershed (See Chapter 2). The watershed Vision provides a beacon to help guide project development.

Following this, stakeholders have defined specific Regional Performance Objectives for each of the three watershed goals (Integrated Water Resources, Economic Development and Collaboration). Regional Performance Objectives are used by project proponents to quantify the watershed benefits of a proposed project.

Ultimately, the "Desired State" that is being developed by the stakeholders will define the desired conditions within the watershed in 20 years, reflecting a balance of the Region's ecosystem functions. The process of determining the Desired State is being achieved through a collaborative, consensus-building process to define a reasonable balance among the four water resource management areas:

1. Flood Management
2. Water Quality
3. Water Supply
4. Habitat

When the stakeholders that represent these interests are in agreement on how to best technically balance these needs, they have defined the Regional Performance Objectives that describe the Desired State for this Region. This version of the IRCWMP begins the collaborative process for defining preliminary Regional Performance Objectives. As a starting point, existing plans and regulations, (TMDLs for example), are used as the initial set of Regional Performance Objectives.

The stakeholders readily acknowledge that conditions within this watershed are dynamic. Project implementation, growth, regulatory changes, climate change, and other factors will require that the Desired State and Regional Performance Objectives be reviewed and updated periodically.

The preliminary Regional Performance Objectives for the water resources goal are presented in Chapter 6: Water Resources. Preliminary Regional Performance Objectives are also identified for Economic Development (Chapter 7) and Collaboration (Chapter 8) in order to provide guidance on how to meet these goals in support of the water resources goal.

The third type of Regional Integration involves urban planning, where General Plans are used to tie hydrologic functions to land use. This is discussed in Chapter 9.

The fourth type of Regional Integration is characterized by seeking and developing common goals with our neighboring IRWM regions. The Central Orange County Region is coordinating with South Orange County Region on common issues in the Newport Coast area, with San Diego County on ASBS issues, with North Orange County Region on groundwater and wastewater issues, and with SAWPA on regional water supply issues.

Figure 4.2 diagrams how these regional integration types work. In the first frame, Vision and Goals tends to pull the development of the four water resource areas together (Regional Integration Type 1). Because the Vision and Goals are rather general, the endpoint is vague and development of the water resource areas is somewhat divergent.

In the second frame, Regional Performance Objectives provide a tighter target and therefore, development of the four water resource areas can be pulled closer together (Regional Integration Type 2).

In the third frame, agency land use plans provide further guidance for developing and integrating our water resources (Regional Integration Type 3).

In the fourth frame, neighboring IRWM regions meet to develop common regional objectives and urban planning strategies (Regional Integration Type 4).

4.2 Step 2: Local Project Integration

The Desired State provides the broad basis for integrated design. It is a top-down kind of integration because it focuses on regional-scale hydrologic functions. Within this framework, a bottom-up integration process, focusing at the project scale, begins to have greater context and relevancy. Project integration is a place-based process that implements local performance objectives within the opportunities and constraints of the project site.

Project Integration at the local level consists of two parts: 1) defining watershed issues, objectives and projects, and 2) integrating projects into larger planning and programming efforts through an integration planning methodology.

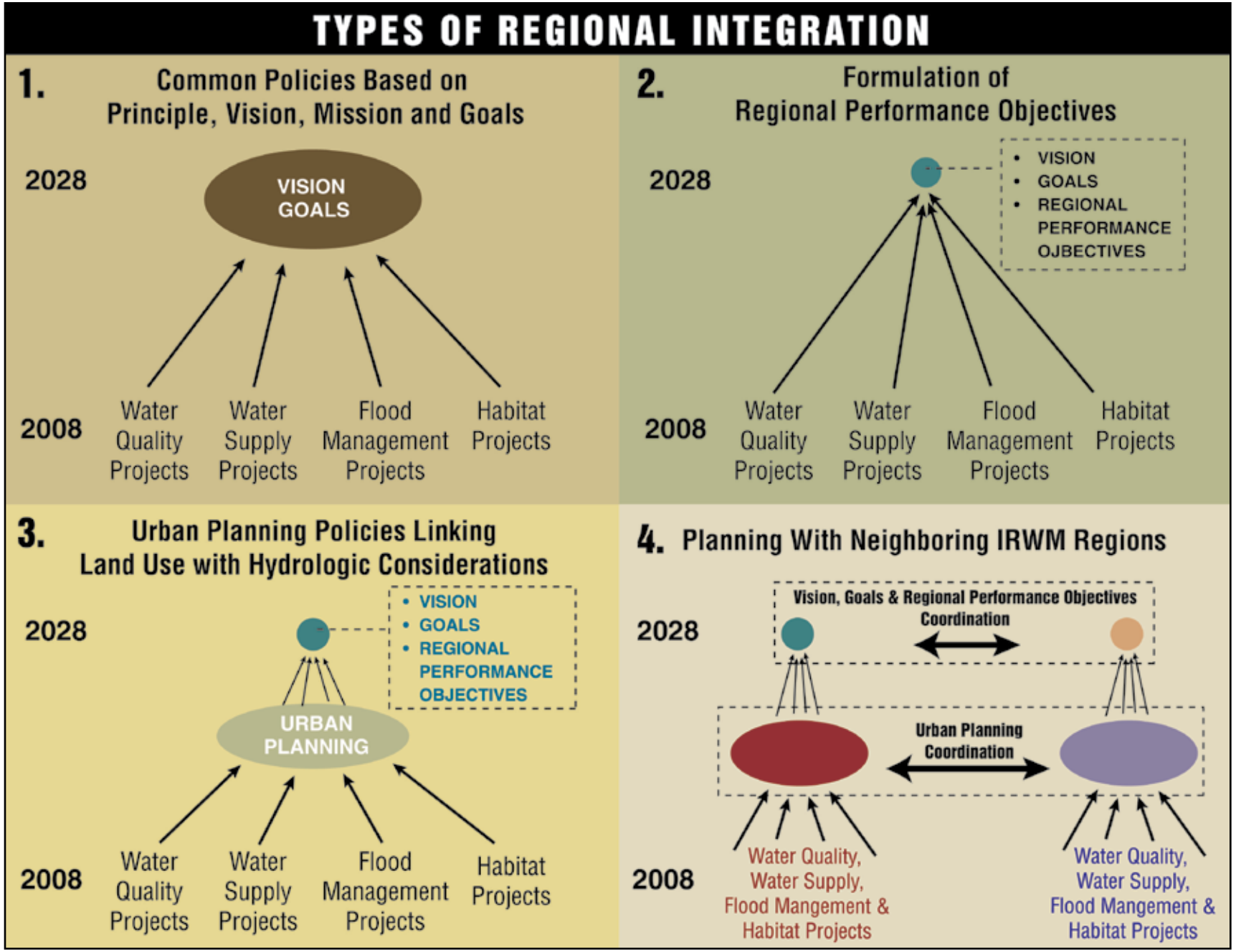

Figure 4.2 Types of Regional Integration

Local Watershed Issue, Objectives and Projects

Local stakeholders define their own water resource issues, objectives and projects, keeping in mind that, at the end of the day, their projects must also support the Regional Performance Objectives. Local objectives are specific, measurable outcomes that address opportunities and constraints based on local political, economic and hydrologic requirements. This kind of decentralized project planning captures local expertise and mobilizes grass roots stakeholders. It also avoids imposing a specific design solution on local interests who more fully understand the dynamics of their particular locations better than the regional, state or federal stakeholders.

This Region has eighteen subwatersheds that function as separate hydrologic units. Rather than asking stakeholders to focus on each of these areas one by one, they were grouped into six Planning Areas that group subwatersheds based on similar characteristics:

1. Northern Foothills
2. Southern Foothills
3. Central Plain
4. Urban Bay
5. Bay/Coastal
6. Coastal Canyons

Some challenges exist across all Planning Areas (e.g., over-irrigation, pesticides, nutrients and bacteria). However, each Area also has somewhat unique characteristics that define the primary problems undermining their local hydrology. Implementation of projects that address the most fundamental problems will create a new baseline condition that enables the other objectives for the Area to be met. These kinds of projects are referred to as Baseline Projects. Projects that help to address the other issues in the Planning Area support the regional and local objectives, and are referred to as Supporting Projects. In most cases, currently identified projects will not be sufficient to fully achieve regional and local objectives. Additional projects will need to be identified as the watershed program evolves.

Integration Planning Approach

As local objectives are established and projects conceptually defined, project proponents will next wish to see how the project can be integrated with the watershed Vision, the three watershed Goals and watershed-wide Regional Performance Objectives. To outline the approach, first consider the three watershed Goals (Section 2.5):

1. **INTEGRATED WATER RESOURCES:** Coordinate, integrate and balance the hydrologic functions of flood management, water quality, water supply and habitat. (Water supply includes supplies from conservation. Both flood management and water quality include surface water runoff issues.)
2. **ECONOMIC DEVELOPMENT:** Integrate economic development with water-related programs and watershed restoration efforts.
3. **COLLABORATION:** Build and sustain effective relationships among watershed agency, landowner and community stakeholders to achieve common goals through positive collaboration and communication.

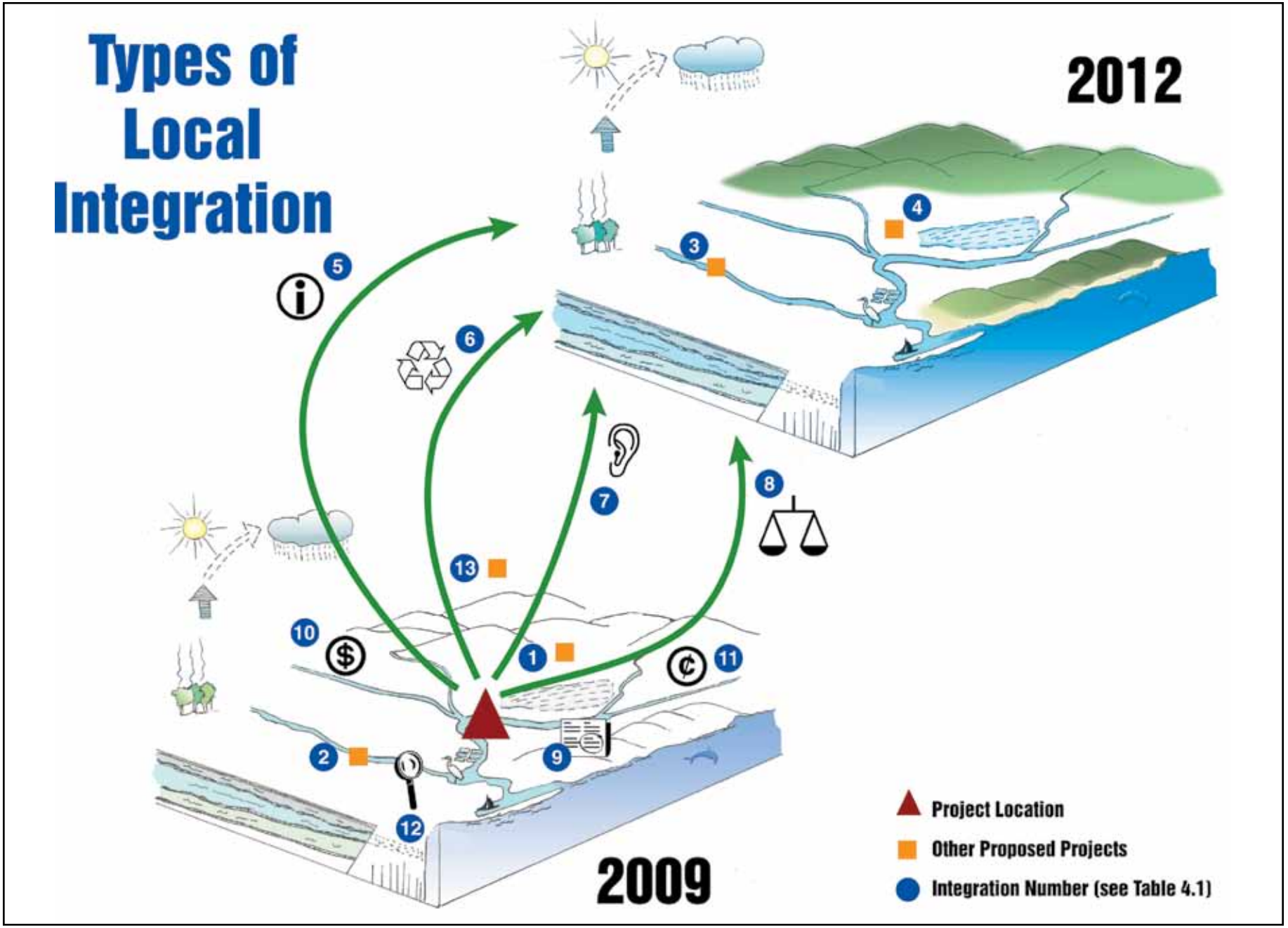

Figure 4.3 Types of Local Integration

Table 4.1 Types of Local Integration

Integration No.	Integration Type Description	Watershed Goal
I_1	Projects or actions tie in adjacent projects such that all projects work together to promote healthy local hydrologic function or effectively resolve significant water related conflicts.	Goal 1
I_2	Project or actions are designed to significantly and effectively promote healthy downstream hydrologic function including projects that effectively resolve significant water related conflicts.	Goal 1
I_3	A pilot project is implemented to serve as an example for a larger future project or program	Goal 1
I_4	The project is designed such that it promotes effective implementation of future projects including projects that effectively resolve significant water related conflicts.	Goal 1
I_5	Project integrates an educational, planning or regulatory component that promotes long-term watershed goals to alleviate stress on our finite water resources.	Goal 1
I_6	Project integrates an educational, planning or regulatory component that promotes long-term watershed goals for green economic development goals	Goal 2
I_7	Project integrates an educational, planning or regulatory component that promotes long-term watershed goals to foster full community participation in developing and implementing the Watershed Vision	Goal 3
I_8	Project integrates an educational, planning or regulatory component that promotes long-term watershed goals to foster full community participation by disadvantaged communities in developing and implementing the Watershed Vision	Goal 2
I_9	Stakeholders enter into a Memorandum of Understanding to develop a particular project	Goals 2 & 3
I_{10}	Stakeholders enter into a collaborative advocacy agreement to find project funding	Goals 2 & 3
I_{11}	Projects are designed for low cost Operations and Maintenance.	Goal 2
I_{12}	The project monitoring program is designed to fulfill the requirements of several local and regional projects	Goals 1, 2 & 3
I_{13}	The project explicitly ties with projects in adjoining watersheds or sister watersheds.	Goals 1 & 3

These goals explicitly recognize that at the regional level, coordinating, integrating, balancing, collaborating and communicating are essential mechanisms that must occur to create a functional plan that can achieve the watershed Vision. These are also essential at the project site. In fact, these mechanisms can be specifically defined and incorporated in the project design. Table 4.1 lists thirteen types of "integration" mechanisms to be considered by project proponents. A review of this list shows that none of these integration mechanisms would compromise a design. In fact, the cross-linkages created by these integration types are likely to enhance the functionality of the design and the long-term cost-effectiveness

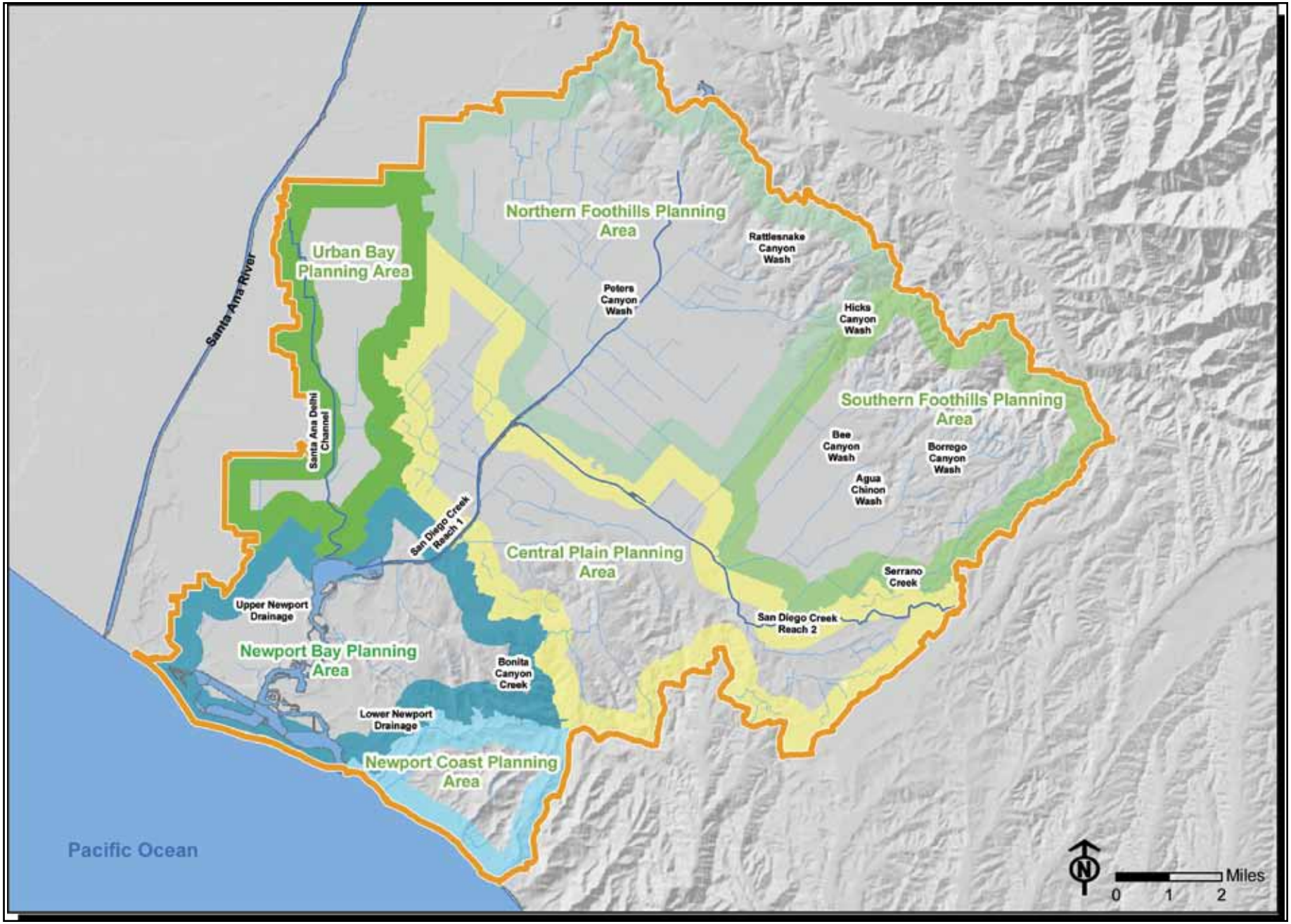

Figure 4.4 Planning Areas

of the project. These thirteen types of local integration are illustrated in Figure 4.3.

This Plan makes a distinction between "multi-benefit" projects and project integration planning. They are actually complementary concepts.

A multi-purpose project usually consists of a core project that includes, as possible, auxiliary projects. For example, a canyon stabilization project also lends itself to removal of invasive plants and replanting of native plants. It might be possible to replant in a way that provides a fuel modification zone for fire protection. It may also be possible to include public trails and amenities within the project limits. Clearly, we want to encourage water resource projects that look for opportunities to serve multiple purposes.

While multipurpose projects are generally a good thing, it is not necessarily an effective regional planning approach. Problems with an approach based solely on multiple benefits include:

- While a single project may serve more than one function, it may not be serving the functions that are most appropriate for a given site or for the watershed. Furthermore, these projects may still not be integrated with each other to function in a mutually beneficial way.
- Simply requiring multipurpose planning does not necessarily provide the tools to facilitate and direct appropriate multipurpose design. Because agencies tend to be set up for single purposes, other functions usually are not considered, especially if they are outside of that agency's expertise.
- The ideas that go into formulating a multi-purpose project do not necessarily provide guidance on how that multi-purpose project fits with another multi-purpose project. These projects could actually be working against one another.

A multi-benefit project can be considered a core project, along with additional tasks added to address site-specific concerns. Integration is the next step, where the multi-benefit project is amended to include attributes that will work with neighboring projects and downstream projects, foster future projects, etc., as reflected in Table 4.1. Chapter 11: Prioritization, proposes a scoring system that awards points based on the multiple benefits of a project, as well as the planning integration that has gone into the project concept.

Now, consider the idea of effective integration. A particular problem or issue that has been well studied and understood will not only be in a much better position to identify good project design solutions, but will also be in a better position to identify real and productive integration opportunities.

Planning for the purpose of integrating a project with the watershed vision is an effort above and beyond normal project planning and project impact analysis. For instance, in a typical CEQA analysis, a project proponent identifies impacts and corresponding mitigation practices to minimize adverse impacts. However, under integration planning, the project proponent looks for connections, linkages and

synergies to other watershed projects and programs to support the long-term health of the hydrologic system as defined by the Desired State. This type of planning is ecosystem-based, as it looks to see how a proposed project fits into the larger scheme of a healthy and sustainable hydrologic system. Integration planning for each project will require innovative thinking to first identify relationships with other existing or potential watershed resources, and then to formulate practical ideas for creating synergies with these projects.

As this is a new kind of planning, there are few examples to draw upon. However, the planning for the Great Park provides an excellent example of how residential and commercial development can be integrated with the creation of the hydrologic and recreational aspects of the Great Park.

Another example of integrated planning is the Newport Coast ASBS Protection Program. This is a multi-pronged approach to protect the sensitive marine life. This program includes a dry-weather runoff reduction program, intertidal docent program, public-use assessment, capital improvement projects to reduce contaminant loads in the canyons, landscape and irrigation ordinance, Newport Bay pollutant load assessment, intertidal and subtidal surveys, mussel bioassessments, intertidal restoration, collaborative agreements with stakeholders and cooperative project funding with the State and local stakeholders.

Who would perform an integration planning study? It is likely to be a diverse team of experts drawing upon the planning, biological, ecological, social, engineering, computer science, economic and regulatory disciplines. The key is that the integration planning effort needs to include analyses of integration possibilities and recommendations such that accomplishment of watershed goals and achievement of the Desired State are facilitated.

As integration planning becomes more commonplace and more reports enter the public realm, it is likely that agency staff will be able to use these previous efforts as templates for integration planning on similar types of proposed projects.

Integration planning is explicitly rewarded when developing a list of priority projects for our watershed (See Chapter 11, Prioritization).

4.3 Step 3: Local Project Prioritization

In Step 2, local proponents define integrated water resource projects that meet local objectives. For the County and cities, these projects are incorporated into a capital improvement program with priority projects receiving funding (Step 3).

Each agency has its own prioritization process that balances regulatory, political, community, planning and engineering considerations. Another factor that can affect the priority of a project is the available funding, including funding available through cost-share agreements and grants.

4.4 Step 4: Regional (Watershed-wide) Project Prioritization

Stakeholders will have identified many important projects to address pressing local and regional objectives, such as providing for a reliable potable and reclaimed water supply, flood control, canyon stabilization, sediment control, toxic pollutant control, upland habitat restoration, estuarine rehabilitation, and ASBS protection. Furthermore, local agencies define priority projects based on local priorities. Given the importance of each of these projects, differing local priorities, and budgetary constraints that do not allow us to roll out all of these projects at the same time, how can projects be ranked to recommend those that work the hardest at making progress toward the Vision?

A project scoring system must take into account:

1. Watershed Goals and watershed-wide Regional Performance Objectives,
2. Local objectives,
3. State watershed issues and strategies,
4. Multi-benefit projects, and
5. Carefully planned integration of projects. It is recognized that state requirements for watershed planning, watershed-wide Regional Performance Objectives and identification of project inter-linkage types are in a state of active development, and therefore, the sophistication of the scoring system should not outstrip the confidence we have in the underlying parameters; i.e., our scoring system should be as simple as possible. The proposed scoring system that takes these parameters into account is described in Chapter 11.

Once all projects are scored, the draft list of prioritized projects (See Appendix A) will be reviewed by the Watershed Stakeholder Committee and then forwarded to the Newport Bay Watershed Executive Committee with recommendations. The Executive Committee members will consider the recommendations and approvals for the final project prioritization list.

Each project sponsor is responsible for identifying funding sources, including strategies for funding the long-term operation and maintenance of their project. For the projects identified in this version of the IRCWMP, funding needs and probable funding sources are included on the Project Information Form for each project (see Appendix B-1: Project Information Form).

On a complementary track, Orange County Watershed Division staff will perform research on potential grant funding options and, in consultation with the Stakeholder Committee, provide recommendations to the Executive Committee. The Executive Committee will provide direction regarding pursuing the grant funds.

4.5 Adaptive Management

The stakeholders place a high priority on the adaptive management process that will be used going forward. The Dynamic Planning Approach identified in this Plan is iterative and adaptive. Once projects are prioritized and implemented, stakeholders monitor the performance indicators for each regional and local objective to assess the progress that is being made. The Executive, Management and Stakeholder Committees can then use this information to identify ways to improve any part of the planning process. Any such improvement begins the four step dynamic planning approach over again. Adaptive management is a way to remain responsive to changing information and to choose the most appropriate strategies for this Region over time. It also requires monitoring progress towards the specific objectives, which is why it is important that each objective has a measurable indicator for success. This allows stakeholders to transparently and scientifically predict, monitor, analyze, and adjust the performance of projects, policies and strategies. A common monitoring program that coordinates data collection across all of the different stakeholders can be used for individual stakeholder purposes, as well as to understand the larger system over time and the impact of any actions taken. This science becomes data input for the next round of the Dynamic Planning Process as it is used to refine the Desired State and Regional Performance Objectives.

The Santa Ana RWQCB Watershed Management Initiative (November 2004) states that priorities for grant funding shall include projects that provide tools for managing and/or enhancing access to regional water resources data, water quality data, and watershed data. The Southern California Coastal Water Research Project (SCCWRP) is a joint powers agency formed to facilitate collaboration among local and regional public agencies to perform environmental research. SCCWRP focuses on coordinating and collecting data necessary for effective management of regional environmental resources. Local stakeholders are coordinating with SCCWRP to develop an effective and coordinated monitoring program that will: 1) refine the Desired State functional regional performance objectives, 2) identify appropriate indicators for monitoring change, and 3) assess the ecosystem outcomes of projects and activities. Continued cooperation through SCCWRP provides an excellent way to build on existing successful local monitoring and data assessment programs, such as the Nitrogen and Selenium Management Program, for multipurpose, regional benefit.

Adaptive management consists of four main components:

1. Data Collection: Each project will include a monitoring plan with performance indicators as part of the project proposal. These indicators are to be based on the Regional Performance Objectives that the project helps to achieve. Upon implementation, these indicators will be regularly monitored and tested to determine if objectives are being met that help achieve the Desired State. The lead project proponent will provide

update reports to the Watershed Management Committee. Examples of existing indicators are the TMDL and NPDES permit measurements. Identifying the appropriate performance indicators for the region has not been addressed so far, and is a next step for SCCWRP and others to focus on.

Sample monitoring opportunities include: water quality sampling, surface water ambient monitoring (SWAMP), pollutant loads, wetland restoration and photographic documentation. Examples of other elements to monitor could include imported water use, recycled/potable water produced and used, 100-year flood control FEMA compliance, habitat recovery from fire, invasive plant control efforts, NPDES permit requirements, other water quality parameters, groundwater levels and quality, soil salinity, sediment in Upper Newport Bay, ASBS and Bay measures of ecological health, habitat connectivity measures, and public participation levels. These types of data could also be used in the city/neighborhood planning, site design and in permitting phases of development.

2. Evaluation: If the indicators are not performing as desired, or if something in the situation has changed, then other management options are evaluated and prioritized. This may involve simple adjustments or it may require ad hoc committee work, studies, technical advisory input and/or stakeholder input. It also may involve reconsidering how water-related issues can be better integrated into infrastructure or other planning and design elements. Collaborative work among all involved stakeholders would allow solutions consistent with other regulatory plans,

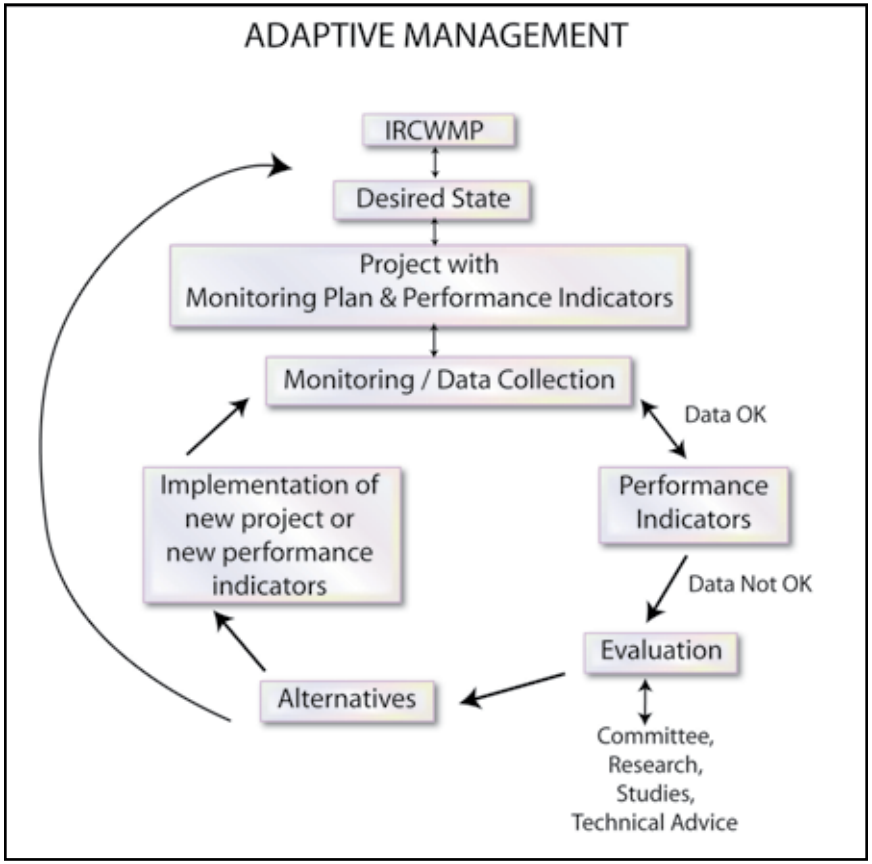

Figure 4.5 The process of adaptive management.

such as General Plans, building codes, the Drainage Area Master Plan, and state and federal regulations.

3. Communication: Data in different electronic formats may not be as valuable as a single database of information. Data sets, updated by each data set producer, could be stored in a multi-relational database, such as a GIS, to facilitate storage, querying, analysis, forecasting, simulation and reporting of indicators. Such a database would allow watershed-scale decision-makers to see the big picture more easily and thus, to make more informed decisions. Once information is developed and available for dissemination, the public and general stakeholders will be able to access specific data electronically, either through a single site or a directory of sites. Through the current and future technology of websites and data browsers, the public, stakeholders, and regulators can query data to assist in decision making and management objectives. Other monitoring websites may be identified and utilized as appropriate during implementation of the Plan.
4. Adaptive Planning: Appropriate decision-makers in the watershed use monitoring results to adapt any processes or projects that are not properly performing. Results can also improve the understanding of system function itself, in which case the Desired State or Regional Performance Objectives may need to be updated. At this time, performance indicators would also be updated if necessary.

This cycle is an ongoing process. It allows management to adjust strategies that aren't working and adapt to changing circumstances and new knowledge. A formal public revision of the IRCWMP itself can occur at regular intervals so that the stakeholders can assess progress and milestones as a group, and focus on any problems with the strategic components of the plan that require consideration.

References:

- Newport Coast Watershed Management Plan. October, 2007. City of Newport Beach.
- Santa Ana Regional Water Quality Control Board. November, 2006. Watershed Management Initiative. California State Water Board, California Environmental Protection Agency.
- **www.waterboards.ca.gov/santaana/html/wmi.html**